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Manhattan Project II:
To End the Threat of Nuclear War

Undoing the Legacy of the Manhattan Project

The nuclear era should end with the Cold War. But that is not what is happening today. One phase of the nuclear age--the period of superpower arms race and hostility--has come to a close, but another phase may be about to begin: the era of nuclear proliferation.

Happily, with the ending of confrontation between NATO and the late Warsaw Pact, the danger of any crisis erupting into all-out global nuclear war has diminished drastically. But that very fact could reduce inhibitions against making or carrying out threats of nuclear attack in regional conflicts. For that and other reasons, the possible new phase of proliferation may actually increase the likelihood of lesser but still horrific dangers: limited nuclear wars, accidents, nuclear terrorism.

All those possibilities will loom for a considerable period within and on the borders of the former Soviet Union, despite the recent unprecedented pledges of three of the four nuclear republics in what is now the Commonwealth of Independent States to denuclearize themselves in coming years. It will take time and dedicated effort to lay to rest the specter described by Secretary of State Baker as "Yugoslavia with nukes," or the even more plausible fear of nuclear materials, weapons or expertise metastasizing outward from these republics into the camp of emerging, unstable nuclear states and, in the case of weapons, into the hands of groups of individuals: terrorists, insurgents, or criminal gangs.

Elsewhere, a two-sided nuclear conflict between India and Pakistan over Kashmir was recently reported to have been narrowly averted in May, 1990, and little has happened to reduce the prospect of a recurrence.¹ Worldwide, although the risk of nuclear war between NATO powers and their former major adversaries has virtually vanished, the overall chance that some nuclear weapons will explode on humans somewhere may be higher than before.

Whether we avert that catastrophe depends upon many things, including the activities of those of us--inside and outside of government--who believe that the era of nuclear danger should effectively end now: that it must and can end in a decisive sense whether or not total physical abolition proves safely attainable under prevailing political conditions.

Contrary to some², such an ending is neither assured nor automatic. That is true despite the momentum of the current

"disarmament race" admirably initiated by President Bush with his unilateral measures of September 27, 1991 and joined by Presidents Gorbachev and Yeltsin and other leaders of what is now the Commonwealth.³ Welcome as they are, none of these moves and proposals so far, particularly on the U.S. side, shows a decisive shift away from Cold War notions of the broad functions of and requirements for nuclear weapons in "superpower" arsenals, nor adopts an appropriate posture from which to discourage proliferation.

Such a shift in posture awaits fundamental changes in the present policies of the United States and its major allies, which must rest on a new way of thinking about nuclear weapons. That means, among other things, admitting no legitimate use for them other than, for a relatively few devices, the deterrence of nuclear attack. And it means joining virtually all the non-nuclear states in the world in regarding as illegitimate threats to initiate nuclear attacks--threats of "first use"--under any circumstances, foregoing preparations or weapons designed to make such threats credible or to carry them out. It means coming to see the existence of nuclear stockpiles beyond the lowest minimal deterrent level in any country, starting with the United States and Russia, as a threatening and urgent international problem--akin to global warming and ozone depletion--that needs to be dealt with cooperatively by humanity as a whole, though led by the countries which are themselves the greatest contributors to the problem.

The technical and policy questions with respect to nuclear weapons in excess of these minimal levels should be not how to store or deploy them till time to make use of them, not how to retarget them meaningfully after losing their superpower enemy, but how to disable them irreversibly and guard them safely before dismantling them, and how to safeguard the radioactive residues indefinitely, under international supervision.

Only if those of us in the United States act determinedly and consistently on such a conceptualization can we really ask any other countries to forego nuclear weapons altogether--or even ask other nuclear states to restrain their buildup or use of threats--or expect effective international collaboration on enforcement. We cannot hope for any of these so long as we continue, on the contrary, to test new nuclear warheads, insist on our freedom to initiate nuclear warfare, and maintain grossly excessive arsenals of thousands of warheads, as are currently envisioned after the most drastic cuts yet proposed by either side.

Policy change on each of the matters discussed so far and other related ones--restrictions on SDI spending, on individual weapons systems, or on the overall military budget--has a good deal of authoritative support outside the government at this time.⁴ The approach traditionally most effective would be to pick out one or two of these at a time as priorities for lobbying, with some hope

of overcoming expected resistance. The problem is that a long, drawn-out, piecemeal approach is unlikely to have much effect on the proliferation process that is now close at hand.

If anything will, it is much more likely to be a dramatic and comprehensive package of coordinated changes in policies and programs, within and among current nuclear states, expressing a fundamental change in our relation to nuclear weapons. To design such a package requires informed discussion and analysis, agreement on priorities, and assignment of tasks and schedules. It will take a focused, coordinated effort of the highest urgency.

The main precedent for that kind of effort in the United States is the very one that launched the nuclear era: the Manhattan Project, organised just half a century ago in 1942. The events of the latter half of last year have created new conditions that make 1992--the fiftieth anniversary of the Manhattan Project--precisely the right time to create Manhattan Project II.

The task of the second Manhattan Project is--so far as possible and as quickly as possible--to undo the legacy of the first: to free the earth of the threat of nuclear war.

Difficult as the problem facing the original project was, the task of Manhattan Project II is even more complex. Just one facet of it--the technical, scientific, engineering, and logistical problems of dealing with radioactive waste from dismantled warheads and from the cleanup of the entire nuclear complex--calls for the coordinated talents of physicists, chemists, and other scientists and engineers on a scale reminiscent of the original project. This would be a worthy basis for the conversion of the various national weapons labs; and adequately compensated reemployment toward the aims of Manhattan Project II of the currently ill-paid weapons experts from the former Soviet nuclear complex could be especially valuable in encouraging them to resist the lure of covert weapons programs elsewhere.

But that is only one part of the overall problem of countering the international consequences of Manhattan Project I. Devising practical solutions and programs for freeing the world of the danger of nuclear threats and ridding it of most or all of its nuclear weapons has even more varied dimensions than the original project--political and psychological, as well as physical--and faces even more obstacles. It is the very complexity and interdisciplinary nature of these tasks, along with their importance and urgency, that suggests the model of the Manhattan Project in the first place.

In contrast to the original, the new project would need to be international--including Third World participants, among others--and non-secretive. Ideally, it would be a high-priority project of governments from the start. But while the major republics of the

former Soviet Union, including Russia, seem now to share a commitment to the goals described above, that is not at all true of the present U.S. administration. Therefore, while some countries might collaborate in the effort at a high governmental level from the outset, such a project in the United States initially would have to be organized outside of government.

That is not a serious limitation on performing the conceptual and planning work of Manhattan Project II; there is more than enough American and international expertise outside government for these functions. But it means--regrettably, in view of the urgency--that the project would not be operational and managerial from its beginning like the one fifty years ago. Indeed, one of the major questions it would have to address would be how to bring about societal and ultimately Executive branch understanding of and consensus on its goals and programs.

To gain presidential, Congressional and bureaucratic commitment to massive global reductions in nuclear arms and effective opposition to proliferation--including willingness to offer the kinds of U.S. reciprocity that these require--will take more, this time, than the equivalent of an Einstein-Szilard letter to President Roosevelt.

There is no time to lose.

Does the task described above include total abolition, the physical elimination of all nuclear weapons? Surely not as a short-run aim; but even in the longer run, is it clearly feasible, in the broadest practical sense? It seems too soon to answer that question reliably. Therefore it is too early to take abolition as a definite goal, one that defines the project and in terms of which its worth and success are to be measured.

But it is not too early to be asking the question, to be addressing it seriously. Among the long-run tasks of the project from the outset must be an effort to explore the conditions that could make abolition feasible or might bring it closer, and how these conditions might come about. However, long before consensus is likely on the feasibility or political and operational requirements of total abolition, other goals of the utmost importance are clearly attainable; these must be the immediate focus of this project.

Manhattan Project II cannot uninvent nuclear weapons, nor even surely prevent later-generation weapons if development and testing, once ended, should later be resumed. Even physical elimination of all existing weapons, if that should come about, could not guarantee indefinitely against their return. In that sense the work of the original project will not be undone, ever, nor can the danger it bequeathed be reduced literally and permanently to zero.

But these truisms do not mean--as they are often cited to suggest--that anything like the present or currently impending

levels of danger should be tolerated any longer. In a meaningful sense, near-abolition of nuclear weapons--95%-99% destruction of current stockpiles--is an appropriate goal by the end of this century, just eight years away. Well before that time--starting this year--radical, decisive transformations of the status quo are both essential and attainable in averting proliferation and in reducing to near-zero the risk of nuclear explosions.

American Policy: Encouraging Proliferation

The need and opening for such achievements--the effective denuclearization of the world--should give a sense of urgency to a new Manhattan Project as great as that which inspired the original one fifty years ago. Then the time pressure came from the prospect of a German bomb. Now it reflects, in addition to a window of opportunity, the prospect of bombs in a host of new countries, or even in the hands of groups of individuals.

Even before the breakup of the Soviet Union, the deadline for the acquisition of nuclear weapons by some nations had recently come to seem no more than one to several years away. UN inspections in Iraq last year had revealed that secret efforts and a covert traffic in technology had brought that country much closer to a bomb capability than had been realized. By analogy, it is speculated that the same might be the case in North Korea, Iran, Algeria and perhaps other states, as had earlier proved true in Israel, India and Pakistan.

Indeed, what has been uncovered in Iraq is an effort of a scale, determination, and even technique--using multiple approaches in parallel--emulating closely the earlier American bomb project. It is becoming clear that the alternative to an effective Manhattan Project II may be a profusion throughout the world of successful reproductions of Manhattan Project I.

More recently, in the months since this was discovered, there has emerged the ominous and unprecedented possibility of a hemorrhaging abroad from the former Soviet Union of nuclear technology, materials, perhaps finished weapons, and almost certainly nuclear expertise, given the desperate shortage of foreign exchange and the erosion of centralized authority and discipline in the former Soviet empire.

That could transform, within months, the environment of international decisionmaking on the acquisition of nuclear weapons. The nuclear option might come to be much more feasible--cheaper, easier, quicker, safer--than ever before, not only for countries that have already been secretly pursuing it but for others who may consider coming into the club, including terrorist or other sub-governmental factions.

Meanwhile, various U.S. policies continue to shape the international environment in ways that have long tended to

encourage proliferation, contrary to historic official lip-service declaring principled opposition to it. These policies include long-term selective tolerance for some covert nuclear weapons programs in, for example, Israel, India, South Africa and, until last year, Pakistan and Iraq.⁵ They also include the policies described earlier: maintaining a massive nuclear arsenal after the end of the Cold War, resisting radical cuts in it and persisting with nuclear testing in the face of a Commonwealth test moratorium, while insisting on the right of the United States and its NATO allies to threaten or implement initiation of nuclear attack against non-nuclear challenges.

And they include policies that endorse the notion that the relative size of nuclear arsenals remains an essential badge of status. For example, the administration's evident determination to maintain nuclear "superpower" standing, insisting on a U.S. arsenal that is now an order of magnitude larger and is projected always to remain "superior" to all others' aside from Russia's. Likewise, crucial support to the anachronistic British program to triple its own nuclear force.

All these expressions of a need and right to rely heavily on nuclear weapons--even in the absence now of any serious military threats to national security--can only encourage potential nuclear states to look toward nuclear weapons as the United States and its major allies always have: as having vital, multiple, legitimate uses, as well as being unparalleled symbols of sovereignty, status and power.

Most dangerously, such potential proliferators are led by past and present American behavior to see the foreseeable uses of nuclear weapons as including threats of initiating nuclear attacks and the possible implementation of such nuclear first-use threats, issued either by or against themselves. Such prospects challenge them to acquire nuclear capabilities of their own, and perhaps even to enter a regional nuclear arms race--mimicking past superpower folly--to be able to deter, threaten or preempt nuclear attack.

Despite their present, admirable posture of nuclear renunciation, the republics of the former Soviet Union should not be regarded as indefinitely immune to such temptations, if the U.S. continues to pose them. On the very day President Bush announced his unilateral initiatives on tactical weapons and SAC alert last September, a leading civilian strategic analyst in Moscow was warning that for cost reasons there was likely to be "a resuscitation of nuclear weapons" in the posture and policy thinking of the states of the former Soviet Union, including Russia. Because of budget constraints and mounting insecurities, he reported, there was a growing conviction in Russia that "we cannot afford to defend our far-flung frontiers--against the Chinese or Central Asians--with conventional means alone."⁶

What he was conveying, of course, was the very reasoning that had led President Eisenhower to adopt his "New Look" policy for defense budgets and strategy in 1953, placing primary reliance on first-use threats of nuclear weapons, which offered "more bang for the buck" than conventional forces. It was not reassuring that the same analyst pointed out that this projected Russian policy was "just what NATO had done, after all."

The NATO doctrine that nuclear weapons were a relatively cheap and effective--and adequately prudent and legitimate--substitute for conventional forces had led, over the course of 30 years, to the seeding of Western and Eastern Europe with tens of thousands of Hiroshima-sized tactical weapons and to their backup by 25,000 megaton-range strategic weapons, mostly on hair-trigger alert. What this Russian analyst was forecasting was a replay in his own country of what was arguably the most irresponsibly dangerous policy choice that had ever been made in human history.

As it happened, starting with President Bush's address within hours of this discussion on September 27, the actual course of nuclear policy within Russia and the other nuclear republics took a decisively different direction, moving toward the rapid rollback of this 30-year buildup. But amidst the current economic and political uncertainties and instabilities in the former Soviet Union, that spectacular shift is not irreversible, as President Yeltsin took pains to emphasize on his visit to New York and Camp David in early February.

The latent lure of the Eisenhower New Look may persist for the Russian military, if the new way of thinking should ever give way to the old.⁷ All this underlines the urgency of consolidating the new Commonwealth course as rapidly as possible and with as much help as America and its allies can provide. And it means, above all, challenging and transcending the old way of thinking in official Washington.

Just how dangerous would a world of expanded proliferation be? In such a world, would another 40 years of limited wars and nuclear threats pass again without any of those weapons exploding on people? One answer might be: why not? The accompanying point of view might go: deterrence has worked, after all, in the past, and the chances are that it will continue to work in the future, as well among new nuclear states as among the old. This is one among several arguments that lead to a degree of complacency about proliferation among many analysts both inside and outside governments. But its assumption that "deterrence has worked" safely enough in the past demands a closer look.

Indeed, the imminent danger associated with proliferation is only in part that some new possessors, whether states or terrorist or insurgent groups, will be markedly less prudent or "less deterrable" than the supposedly more responsible leaders of current

nuclear states. That is a familiar bogey: with some reality, especially as it applies to potential nuclear terrorist groups or civil wars. But it is understandable that countries like India and China, Brazil and Argentina, along with Middle Eastern states, have felt this concern to be not only overdrawn but patronizing and insulting, a form of ex-colonialist arrogance which deprives the Non-Proliferation Treaty, in their eyes, of compelling authority.

The larger problem posed by more widespread possession of nuclear weapons is the likelihood that new nuclear states will come to threaten their use in regional crises and wars in much the same ways and with the same individual risks of implementation as the often-secret superpower threats of the past forty years: only more frequently, altogether, and over a wider range of circumstances, thus with a higher overall probability of explosion.

To say this is to reject the condescending implication that significant risk of nuclear war would emerge for the first time with the acquisition of nuclear weapons by "irresponsible, immature" leaders in the Third World. But it is also to say that the risk that nuclear threats might lead to nuclear war has been higher over the last 40 years than the world public has tended to believe or was allowed to learn. With nuclear weapons in the hands of a greater number of leaders who may be individually no more--but no less--reckless in their willingness to gamble with nuclear threats than most American presidents of the last half-century, the overall long-term risk would seem somewhat higher still. That is no basis for complacency.

It is simply mistaken to believe, as most Americans do, that no U.S. nuclear weapons have ever been used since the attacks on Hiroshima and Nagasaki. On more than twenty occasions a succession of American presidents, in particular, have used nuclear weapons in crises and limited wars, in Indochina, East Asia, Berlin, the Middle East: used them in the precise way in which a gun is used when it is pointed at someone's head in a confrontation, whether or not the trigger is pulled.⁸

Similar uses of nuclear weapons in crises have also been made by others, in particular the Soviet Union, Israel,⁹ and, as mentioned earlier, India and Pakistan in 1990. The most recent example of such gambling was just a year ago, and it involved use of nuclear weapons in ambiguous and effective threats by a number of nuclear powers; indeed, except for President Gorbachev, all of the national leaders involved in the crisis are still making decisions in office, including, as it happens, Saddam Hussein.

Five nuclear states were involved in the Gulf war, all arrayed against Iraq. At least two of them, the United States and Israel, and perhaps the British and French as well, had tactical nuclear weapons deployed in the region; the United States had close to 500.¹⁰ Not one of these four--the fifth, the Soviet Union, did not

participate in military operations--explicitly or tacitly ruled out possible nuclear first-use, i.e., refrained from using its weapons to deter certain non-nuclear challenges by Iraq. Indeed, under public questioning, high U.S. and other Allied officials pointedly refused to rule out the possible first-use of nuclear weapons against Iraq under various circumstances: in particular, if the Iraqis used chemical weapons extensively, which was regarded as highly likely.¹¹

Others, speaking without attribution, went further. Major newspapers quoted British and French officers predicting flatly that their respective forces would retaliate to gas warfare with deployed tactical nuclear weapons.¹² Meanwhile, published polls revealed high levels of support in the American public for hypothetical initiation of U.S. nuclear attacks against Iraq under several possible circumstances; in November, 1990, 49% thought nuclear weapons would be justified if Iraq used poison gas against American troops. In the weeks before the war, 24% of Americans favored the use of nuclear weapons "to quickly end any hostilities and save the lives of American troops," or to avoid becoming "bogged down in a stalemate with Iraq."

In late January, after only two weeks of air war and before the first ground skirmish, public approval for using "tactical nuclear weapons against Iraq if it might save the lives of U.S. troops" had risen to 45%.¹³ These levels of public support for U.S. nuclear first-use were two to four times higher than any recorded during any point of the Korean or Vietnam Wars, at the height of ground combat and American casualty rates.

The very collection and publication of such polling data during the war was itself, of course, almost surely read as a threat in Baghdad. The fact that support by American citizens for possible nuclear first-use against a non-nuclear opponent was so unprecedentedly high probably reflected, among other things, the new public confidence that such an initiative would no longer lead to a possible U.S.-Soviet nuclear exchange. Similar confidence in other populations and leaders could be a significant disinhibiting factor in unleashing future nuclear threats or attacks in the post-Cold War era.

It is plausible to infer that fear of a nuclear response--perhaps above all from Israel, if it had been attacked by SCUDs with chemical warheads--was a major factor in the otherwise-unexplained Iraqi failure to employ any of their large supply of chemical shells, bombs or warheads against Allied forces or Israeli cities. Such an inference of successful use of nuclear weapons, with public support, could encourage both proliferation and imitation of such threats in future conflicts.

At the same time, others in the Third World have probably drawn the lesson that Iraq would have been spared these credible

threats, and its civilian infrastructure, at least, would not have suffered the heavy bombing it received if only Saddam Hussein's nuclear proliferation efforts had been successful before the conflict; this thought is yet another spur to proliferation, for deterrence of Western intervention, conventional bombing and nuclear menaces.

Still, another basis for complacency about proliferation is held by some analysts. They privately believe that some nuclear state in the future, especially a new one, might indeed finally carry out such a threat, but that the first instance of this would also, fortunately, be the last. In this view, an act of tragic foolishness by one of the new, inexperienced nuclear states is probably inevitable, sooner or later. But perhaps the sooner the better, because a new concrete demonstration of the destructiveness and futility of even the smallest nuclear attack is probably exactly what is needed to mobilize world opinion and action effectively, at last, against nuclear weapons.

But suppose Saddam Hussein had mounted chemical gas warheads on some of the missiles he delivered on Tel Aviv, and enough had gotten through to cause major civilian casualties. If the Israelis had finally disclosed part of their nuclear arsenal by launching, say, some tactical nuclear weapons against Iraqi troops massed in the desert far from civilians--or even against an Iraqi city--in response to this new, unprovoked, killing-of-Jews-by-gas, it is not at all clear that there would have been, in fact, mass world revulsion, or condemnation of the Israelis for this use of nuclear weapons. The results on Iraqi military targets, and the course of the war, might well have been seen as successful, and appropriate. Even a revenge strike on a city might not have been regarded, outside the Arab world, as wholly unjustified for the Israelis, under the circumstances.

Likewise, as the polls in America foretold, a limited nuclear attack by any of the nuclear Allies, U.S., French or British, on an Iraqi military target in response to a major Iraqi chemical gas attack on their troops or on Saudi civilians might similarly have been seen as a dazzling demonstration, after generations of controversy, that there was such a thing after all as appropriate, necessary, successful, legitimate and meaningfully limited nuclear attack. And that late demonstration could have had the most ominous implications for the future: of proliferation, new arms races, nuclear planning and employment, terrorism, disarmament...and ultimately of human survival.

The point here is not highly dependent on the peculiarities of this hypothetical example. It could indeed be, as the analysts cited believe, that the first explosion since Nagasaki of a nuclear weapon on human victims would tilt world opinion decisively toward effective control or abolition of nuclear weapons, ending the nuclear era. But it seems very much more likely that it would have

the opposite effect, or a mixed effect: even if it did not seem justified, or successful.

By its very occurrence, by the failure of deterrence, such an explosion may convince many in prospective or existing nuclear states that the era of nuclear bluffs has at last given way to the era of nuclear wars; that efforts to reduce nuclear weapons or prevent proliferation are futile and unsafe; that a precedent has been set that makes nuclear weapons usable in combat and henceforth sure to be used; that nuclear umbrellas extended by others are unreliable; that the world has suddenly become more dangerous in ways that can only be guarded against or exploited by one's own possession and diligent modernization of nuclear arms. The very horror of the event, unprevented by the world community, could cause a widespread clinging to national authority and a turn toward military strength for security.

It seems important to avert even a single trial of these speculations, or the proliferation that increases the likelihood of a test.

Curtailing Proliferation: A "Demand-side" Approach

To discourage others from following America's and NATO's past and current example of reliance on nuclear threats, it will never be enough to try to close all technical access to acquisition, the current "supply side" approach. Manhattan Project II must also define and help bring about necessary changes in official U.S. attitudes and policies that now enhance the demand for nuclear weapons, the emulative or deterrent considerations that form positive incentives toward proliferation or make it seem legitimate.

There is a long way to go. For the U.S. government to contribute decisively to ending the era of nuclear threats, it must do an about-face with respect to two specific premises, among others, on which it has based official planning and which it has deliberately promulgated for some 40 years, concerning the practical and legitimate uses of nuclear weapons. As suggested at the outset of this paper, the required new way of thinking means, first, accepting the restrictive view that the only appropriate and legitimate function of possessing nuclear weapons--in the minimum numbers sufficient for this purpose--is to deter nuclear attacks.

Second, it means adopting the corollary constraint of "no-first-use" of nuclear weapons: renouncing in principle and practice--to be reflected in weaponry, doctrine, training and deployment--willingness and readiness to initiate nuclear warfare under any circumstances whatever. The latter principle was adopted as a commitment by the 11 republics of the Commonwealth of

Independent States in their founding document in December, 1991; strongly opposed by the United States, it has always been rejected by the NATO governments, who are almost alone among nations in the UN in this stance.

Probably few Americans are aware of the extent to which the U.S. and NATO first-use doctrine has isolated the United States and its Western allies from world opinion on the legitimacy of threatening or carrying out the initiation of nuclear attacks under any circumstances; nor are they familiar with the sharpness of the language used by UN majorities in resolutions condemning the policies on which NATO has based its planning. Thus, a UN Declaration on the Prevention of Nuclear Catastrophe (UN Resolution 36100, December 9, 1981) declares in its Preamble: "Any doctrine allowing the first use of nuclear weapons and any actions pushing the world toward a catastrophe are incompatible with human moral standards and the lofty ideals of the UN."

The body of the text resolves: "States and statesmen that resort first to nuclear weapons will be committing the gravest crime against humanity. There will never be any justification or pardon for statesmen who take the decision to be the first to use nuclear weapons." 82 nations voted in favor of this declaration, with 41 abstentions; 19 opposed it, including the United States and most NATO nations.

With an era of widespread proliferation looming, it should now be unmistakably clear even to those who did not perceive it earlier that it would serve the interests of the United States, as of the rest of the world, for this resolution to be accepted as a universal principle. That would mean that the United States and its allies would join, at last, in a moral judgment that is already asserted by the majority of governments of the world; but it would have to be expressed by more than a changed vote in the UN. It would have to be demonstrated in massive changes in force posture, doctrine, readiness, and underlying public attitudes that could hardly come about other than by a strenuous political process.

Even if all that should come about, it is late in the day for an American national change of heart to be wholly impressive to others, but we can best plan and act as if it were not too late. And it is hard to exaggerate the difference that a real change in the direction of American influence might possibly make in the world.

Concretely, the restriction of nuclear functions to deterrence of nuclear attack, especially when reinforced by the rejection of plans to threaten or carry out initiation of nuclear attacks, implies a force posture that has traditionally been described by the not entirely expressive term "minimum deterrence." Although as a concept this seems to correspond to a "principle of minimum defense sufficiency" which President Yeltsin has promoted lately,

and although his proposals go further in this direction than those of President Bush, neither government has yet suggested let alone committed itself to unilateral or mutual reductions and constraints that would come close to embodying this policy.

As of this writing [February 10, 1992], far from abolishing all weapons designed primarily for first-use, both parties propose to keep sizeable numbers of tactical nuclear weapons. Virtually all of these weapons are vulnerable to nuclear attack, especially when they are deployed close enough to a combat front to be used at all; thus they constitute weapons only for first-use, or for use against non-nuclear opponents. Basically their function is to substitute for more expensive conventional forces. Recent moves to withdraw most of these from deployment and store them in the United States and Russian homelands, destroying only some of them, are welcome for crisis stability, but they do not express a changed attitude toward the the prudence of substituting nuclear forces for more expensive conventional strength, or the legitimacy of threats to initiate attacks with nuclear weapons.

If these continue to be acceptable aims for the nuclear programs of the United States and Russia--even after their own overarching confrontation has ended--there is simply no logical argument for denying the legitimacy or reasonableness of nuclear arsenals sized and shaped to the same ends in other countries. This is especially true for countries such as Pakistan and Israel, and surely others, who face regional opponents with much larger conventional forces: which was the historic rationale for NATO's reliance on first-use nuclear threats, backed up by hyperbolic U.S. strategic forces.

Likewise, the U.S.-proposed and probably pending elimination of land-based MIRVd ICBMs and stopping production of silo-busting, first-strike weapons like the W-88 warhead are important steps toward strategic stability, while halving START ceilings and curtailing modernization will save sizeable costs. But at best these serve the limited goals of the START process, which has never aimed, at least on the U.S. side, at radical reductions or at abandoning "extended deterrence" based on first-use threats, thus at discouraging proliferation.

Moreover, the U.S. pressure and new Russian openness to erode the single most effective arms control agreement restraining a defensive and thence an offensive arms race--the Anti-Ballistic Missile Treaty, narrowly interpreted--threatens to counteract the new progress both in stability and cost terms, especially if, as President Yeltsin warns, a later Russian regime emerging from chaos should renew a wasteful military competition.

Meanwhile, even the lowest ceiling for strategic weapons yet proposed by the two major parties, President Yeltsin's suggestion for mutual cuts down to 2000 warheads--still more President Bush's

proposal for 4500 warheads--continues to reflect a traditional superpower targeting approach aimed at supposedly limiting damage to the attacker in an escalation to all-out war by a preemptive first strike, or at strengthening the credibility of the historic NATO threat to carry out an essentially irrational action, initiating tactical nuclear attack against a heavily nuclear-armed opponent. Either level is far in excess, by an order of magnitude, of what could be justified by the requirements of the single goal of deterring nuclear attack.

There is no precise, objective figure that can be given for the force requirement for "minimum deterrence," but Dr. Herbert York, echoing McGeorge Bundy, has made a plausible argument that the number needed to deter the kind of adversary who can be deterred at all is "somewhere in the range of 1, 10, or 100" survivable, deliverable warheads, and "closer to 1 than it is to 100."¹⁴ All acknowledged existing arsenals, along with Israel's, exceed this standard. But since President Yeltsin's proposal for Russia's "deterrent" force would exceed it by twenty times and remain several times larger than the current or proposed arsenals of Britain or France, it is understandable that the leaders of those countries have so far been deaf to direct urgings by him to begin reducing their own forces on the basis of a common "principle of minimum defense sufficiency."

That is a harbinger of the limited moral force that can be brought to bear against creation or expansion of other national nuclear arsenals by the United States, which currently proposes to maintain nuclear superpower status for the United States and Russia with joint forces twice as high as President Yeltsin has suggested. To be sure, even Secretary of Defense Cheney has started to talk the language of minimum deterrence; "We're moving into a new era where clearly the impetus is to shrink the stockpiles on both sides and going down to some minimal level that's required for maintaining our deterrent capability," he said recently to Pentagon reporters.¹⁵

But since on the same day that quotation appeared in print he was criticising President Yeltsin's proposed level of 2500 warheads as being destabilizing and inadequate for deterrence compared to the U.S. proposal of 4500 warheads, it seems evident that the Bush administration's criteria for "minimal levels" are somehow very different from those of Herbert York, and that deterrence of nuclear attack is not all U.S. officials have in mind. Nor do they yet accept any standard of "minimum defense sufficiency" that could put pressure on the British, French, Chinese or Israeli arsenals.

Indeed, it would be interesting to hear President Bush or Secretary Cheney explain the strategic theory whereby, if both sides have the same number of weapons, it is more advantageous in terms of U.S. security for the Russians to have 4000 warheads within range of U.S. targets than to have "only" 2000, or 1000.

Secretary Cheney frequently draws attention, realistically, to the uncertainty as to whether future Russian regimes will be either as unthreatening or as cooperative as the present one. Precisely for that reason, it seems almost self-evident that it is urgent to get commitments now from the current leaders to disable just as many Russian strategic missiles as they will agree to--with the inducement of American reciprocal cuts--and to help them financially and technically to carry this out as fast as physically possible.

The Need for Reciprocal Transparency

There is a positive reason for urgency that is just as important. The ending of the Cold War, and the initial antinuclear allergy of the leaders and publics of the successor regimes to the Soviet Union, have created a totally unprecedented opportunity for collaboration by major nuclear states on achieving quick and radical reductions--in some cases, elimination--of their own nuclear arsenals, thus pointing the way toward global nuclear disarmament.

For the first time in the nuclear era three states--Ukraine, Belarus and Kazakhstan--that could claim to possess operational nuclear capability have renounced that status. In particular, the intensity of desire in Ukraine to become a nuclear-free zone as quickly as possible--because of the experience of the 1986 Chernobyl disaster--is unparalleled for a state now harboring nuclear weapons on its territory. It is the exemplary intention of Ukraine to see all the weapons within its borders, including the third largest collection of strategic weapons in the world, removed and destroyed by the end of the century, with the tactical weapons gone by the middle of this year. There could be no better chance than with such a partner to institute internationally supervised procedures of registration, disabling, safe transport, storage and dismantling of nuclear warheads and permanent safeguarding of radioactive residues.

But with the fresh resurgence of national pride, Ukraine--like Russia, North Korea and other nuclear or near-nuclear states--still looks for reciprocity from the United States if there is to be any bilateral or international inspection, monitoring or participation in the disarmament process. It seems a simple and reasonable demand; at any rate, it appears to be the price, and hardly a forbidding one, for Ukrainian and Russian agreement to international verification measures of great importance.

Yet such reciprocal openness and constraint has not yet been at all forthcoming from the Bush administration, at this crucial time before Ukrainian attitudes may shift, and--we can only hope--before nuclear materials, warheads or experts have escaped existing controls. The reason for the administration's reluctance to reciprocate seems to be the higher priority it puts on retaining its own full freedom of future action from any external restraint:

e.g., freedom to recycle fissionable material from dismantled warheads into new U.S. weapons if a motive to do so should ever present itself.¹⁶

The result is likely to be, not that the transport of nuclear weapons out of Ukraine headed for destruction in Russia will be halted or even slowed, but that it will take place without the kind of verification that can reassure the international community that sizeable numbers of weapons have not been retained or diverted. At least two problems follow. First, current Russian confidence that national controls are thoroughly adequate to prevent diversion of weapons or materials may be misplaced. Second, whether that is true or not, international uncertainty on this matter will eventually be cited as an obstacle to adopting radically lower levels of deterrent nuclear capability, well below 1000 weapons.

Thus, the United States should offer funding from its defense budget this year for the registering and tagging, as quickly as possible, of all nuclear weapons in the Commonwealth--proposing this for all nuclear weapons in the world, including those of the United States--and for the safe storage and handling of weapons to be disabled and dismantled on both sides.

U.S. facilities should be made open to the same international verification and monitoring procedures for the disarmament and dismantling process that are demanded of the Commonwealth and other nuclear states. Indeed, rather than setting a higher priority to keeping industrial secrets or to maintaining the freedom to reuse nuclear materials in new weaponry, the United States should set a model of transparency to the world in these matters.

Manhattan Project II: Specific Aims and a Timetable

What might an overall staged timetable look like? The original project of 1942--after an earlier gestation period of three years--designed and delivered a bomb in three more years. The following proposed schedule of successive targets--with one-year, three-year and end-of-decade deadlines--exemplifies the kind of planning and recommendations the new project might produce: for action by the next administration or, if necessary, by Congress through the budgetary process if current officials persist in their record of opposition to the measures below.¹⁷

By Mid-1993:

Within an initial target date of one year from now--a shorter deadline than would have seemed at all plausible before the latest U.S.-Commonwealth initiatives--the U.S. government should:

--adopt the principles of minimum deterrence and no-first-use of nuclear weapons; reject in principle and practice the use of nuclear weapons as an instrument of policy or warfare, restricting remaining devices--in minimal numbers, separated physically and

organizationally from regular military commands and forces--to the single function of deterring nuclear attack;

--end nuclear testing: joining the Commonwealth in a moratorium on nuclear testing while negotiating a permanent Comprehensive Test Ban Treaty, as provided in the preamble of the Partial Test Ban Treaty and "recalled" in the preamble of the Non-Proliferation Treaty; --

--commit itself to disable and destroy--not merely withdraw from deployment--all tactical nuclear weapons, air-launched as well as sea- and land-based;

--commit itself not to reopen the production of fissionable materials, or to reuse material from dismantled warheads in new weapons;

--suspend indefinitely the production of new nuclear warheads, while seeking a permanent, inspected international ban on production of warheads and of fissionable materials;

--commit itself to adhere to the provisions of the Anti-Ballistic Missile treaty, narrowly interpreted;

--eliminate multiple-warhead (MIRVd) land-based missiles and existing silo-busting sub-based warheads--such as W-88 warheads already deployed--and seek a mutual interim ceiling on total U.S. and Russian strategic weapons of no more than 1000 warheads, preferably 500 or 100.

Since all of these steps, except for the last two, were proposed on a bilateral basis by former Soviet President Gorbachev in October, 1991 with the concurrence of Russian President Yeltsin and the leaders of the other republics, there is every reason to expect that they would promptly be matched by Russia and the rest of the Commonwealth.

The ABM treaty adherence runs counter to suggestions by President Yeltsin in early February as well as to the long-held position of President Bush, but it is important to avoid a vastly wasteful and strategically destabilizing "jobs program" in both countries and to avert later pressures to reintroduce MIRVing and to renew the strategic offensive arms race.

The three-year period of the original project suggests the next target date; it would bring us to 1995, the fiftieth anniversary of the Alamogordo test and the bombing of Hiroshima, the first demonstrations of nuclear destruction. 1995 is also the year of the Non-Proliferation Treaty renewal conference, which could be the beginning of the end of the formal nonproliferation regime if the programs above and below are not achieved.

By August, 1995:

Mid-1995 should be the deadline for the permanent end of nuclear testing and the production of fissile material by any state, as well as for achieving commitments on the part of all nuclear states of the world to:

--the principles of no-first-use of nuclear weapons and their practical restriction to the single function of deterring nuclear attack;

--abolition of tactical nuclear weapons, with total destruction of them by the year 2000;

--near-abolition of strategic weapons by the year 2000: 95% or more reduction from present superpower levels, down to 500 warheads at most and preferably 100 or less in any nuclear state;

--along with all other nations, adherence to a strengthened anti-proliferation regime and the Non-Proliferation Treaty, including, at last, its disarmament aims, as stated in both its preamble and Article VI.

Accompanying the commitments outlined above to nuclear policy goals, major programmatic efforts should already be underway by 1995 toward their realization by the third target date.

By 2000:

Achieving these interim goals by the end of the decade will substantially end the era of nuclear threats with the millenium. And it will give, at last, realistic basis to the hope of ridding the earth altogether of nuclear weapons.

1. Los Angeles Times, January 19, 1992: "Terrifying Pursuit of Nuclear Arms," John M. Broder and Stanley Meisler. "Just how close the world came to its first nuclear war that spring has been one of the best-kept secrets in Washington. Officials believe that it was only the timely intervention by the United States, and parallel entreaties from Moscow, Beijing and several European governments, that prevented all-out war involving nearly a fifth of the world's population."

2. See the title and subtitle of an otherwise excellent article by William M. Arkin, Damian Durrant, and Hans Kristensen in the Bulletin of Atomic Scientists, December, 1991: "Nuclear Weapons Headed for the Trash: Whether he intended it or not, Bush has taken the steps that mean the beginning of the end for nuclear weapons." The body of the analysis is more nuanced than this and is closely in line with the thoughts presented here, but the authors' confidence that the steps already taken by Presidents Bush and Gorbachev--even when followed up by the further important initiatives and proposals by President Bush and President Yeltsin in January and February, 1992--"practically guarantee" the "end of the nuclear age" seems overstated, in a way that seriously underrates the need for extra-governmental thinking, planning and political pressure of the kind discussed here.

3. For an appreciation and critique of these unprecedented initiatives and responses, see "Nuclear Security and the Soviet Collapse," interview of Daniel Ellsberg by Jerry Sanders and Richard Caplan, World Policy Journal, Winter 1991-92. Several passages in this paper are drawn from that interview, and others are elaborated there.

4. See in particular: "The Future of the U.S.-Soviet Nuclear Relationship," Committee on International Security and Arms Control, National Academy of Sciences (Washington, D.C., 1991); "The START Treaty and Beyond," Congressional Budget Office, October, 1991; Decisions for Defense: Prospects for a New Order, William W. Kaufmann and John D. Steinbruner, The Brookings Institution (Washington, D.C. 1991); "The Nuclear Threat: A Proposal," Hans A. Bethe, Kurt Gottfried, and Robert S. McNamara, The New York Review, June 27, 1991; "Nuclear Weapons After the Cold War," Carl Kaysen, Robert S. McNamara and George Rathjens, Foreign Affairs, Fall 1991; "Counting the Costs of the Arms Race," George Perkovich, Foreign Policy No. 85, Winter 1991-92; "U.S. Military Agenda for 1992 and Beyond," The Defense Monitor, Vol. XX, No. 6, 1991, Center for Defense Information, Washington, D.C.

5. On Israel and Pakistan, see Gerard C. Smith and Helena Cobban, "A Blind Eye to Nuclear Proliferation," Foreign Affairs, Vol. 68, No. 3, Summer 1989. For much more on Israel and on the divergence between American officials' private attitudes toward proliferation among friendly nations and U.S. declaratory policy opposing it, see the investigative study by Seymour M. Hersh, The Samson Option: Israel's Nuclear Arsenal and American Foreign Policy, New York, 1991.

6. Discussion with Andrei Kortunov, Institute for the Study of USA and Canada, September 27, 1991.

7. Several months after the discussions with Andrei Kortunov prompted this reflection--published in my World Policy Journal interview, op. cit.--this point is made in almost these precise words by Stephen Meyer at the end of an article appearing in late-January, 1992 ("How the Threat (and the Coup) Collapsed: The Politicization of the Soviet Military," International Security, Vol. 16, No. 3, Winter 1991/1992, p. 38. In his final section, "Soviet Military Power in the Next Decade: A Nuclear Solution?" Meyer might almost be quoting Kortunov directly as he draws his own conclusions as to the logic that may tempt future Russian planners to substitute nuclear strength for more expensive conventional forces, as the Soviets did in the early 1960's.

8. See the list of a dozen instances, with references, in "A Call to Mutiny," Daniel Ellsberg, introduction to Protest and Survive, ed. E.P. Thompson and Dan Smith (New York, 1981). A longer list, in an unpublished manuscript of 1986, is available from the author. A number of these episodes are discussed in Nuclear Blackmail and Nuclear Balance, Richard K. Betts (Washington, D.C., 1987). Some of these threats--many of which were concealed, then and later, from the American public, though they were obviously not secrets to the foreigners threatened--were regarded by the Presidents and some of their close advisers as successful. Others were not. Most of them were ambiguous, in greater or less degree. Some of the threats, successful or not, were regarded by the presidents as bluffs or partial bluffs; but in no case did that mean there was no danger of escalation. To menace someone with a gun one believes to be unloaded is not without risk, indeed a variety of risks, to both parties and to others in the vicinity.

9. See Seymour M. Hersh, op. cit., particularly Chapter 17, "Nuclear Blackmail," on Israel's threats in the 1973 Middle East war. Hersh's title refers to a use of nuclear weapons, intended from the beginning of Israel's covert program and applied successfully in 1973, to coerce an ally, the United States, into more prompt and decisive non-nuclear support in a crisis than might otherwise have been forthcoming, by the threat that otherwise Israel might feel forced to initiate nuclear warfare, against allies of the Soviet Union or the Soviet Union itself. The same

tactic was meant to intimidate the Soviet Union into restraining or limiting support to its allies, Israel's opponents. France was the first to arm itself to pursue this sort of possibility, and Israel may not be the last.

10. William Arkin, "Huge Nuclear Force in Gulf," San Francisco Chronicle, December 12, 1990, p. 3.

11. On February 2, two weeks into the air war, a Los Angeles Times story by William Tuohy with the headline, "Quayle Refuses to Rule Out U.S. Nuclear Attack" reported from London: "After a morning meeting with British Defense Secretary Tom King, [Vice President] Quayle was asked about possible U.S. use of nuclear weapons against Iraq...The use of nuclear weapons, he said, is 'always an option, an option you are not going to rule out.' While President Bush has said that he has no plans to use nuclear weapons, the allied commander in Saudi Arabia, Gen. H. Norman Schwarzkopf, has said that the rules could change if the Iraqis use weapons of mass destruction first. Defense Secretary Dick Cheney also refused to rule out the nuclear option just a few days before the war began."

12. For example, under the main headline, "UK will go nuclear if forces gassed, claims Army man," the lead story in the Sunday Observer, September 30, 1990 by Adam Raphael begins: "A senior officer attached to Britain's 7th Armoured Brigade, who left for the Gulf yesterday, claims that if they are attacked with chemical gas by Iraqi troops, they will retaliate with battlefield nuclear weapons. The Ministry of Defence refused to confirm this last night, but this is the first unofficial indication that British troops may be authorised to use nuclear weapons to defend themselves if attacked." In commenting on the Observer story, Prime Minister Margaret Thatcher said she "knew of no authority" for the report, but did not deny the option, stating, "You'd have to consider at the time, if chemical weapons were used against us, precisely what our reply would be." (Arkin, op. cit.)

13. Time, December 10, 1990, p. 42; Newsweek, January 14, 1991, p. 17; George Black, "Just How Far is Bush Prepared to Go in War?" Los Angeles Times, February 17, 1991, p. M7.

14. Herbert F. York, "'Remarks' about Minimum Deterrence," Lawrence Livermore National Laboratory, CTW-12-90, January 25, 1991, "I have long regarded the remarks that McGeorge Bundy made, shortly after he left his position in the mid-1960s as National Security Advisor to Presidents Kennedy and Johnson, as cutting to the core of the situation. In sum, he said that, in the real world of real political leaders, any policy which in advance was known to bring a single hydrogen weapon on a city of one's own country, would be regarded in advance as a catastrophic blunder. Ten weapons on one's own country would be a disaster beyond history, and then he ended by saying that 100 is unthinkable....And there may very well

be irrational people with nuclear weapons, but I do not think they practice the kind of calculus that is relevant to the notion that even 5000 deter. Thus, as far as rational people approaching the question of nuclear weapons falling on themselves, somewhere between 1, 10, and 100 is the answer to what it takes to deter, and for irrational leaders there may be no answer at all." (pp. 1-2). The reference to McGeorge Bundy is to his article, "To Cap the Volcano," Foreign Affairs, Vol. 48, No. 1, October, 1969, p. 10.

15. Washington Post, Sunday, February 2: "New Era of Nuclear Disarmament," Don Oberdorfer and R. Jeffrey Smith, p. A26.

16. For a thorough discussion of this problem, see "So Little Time, So Many Weapons, So Much To Do," by Christopher Paine and Thomas H. Cochran, Bulletin of Atomic Scientists, January/February 1992, pp. 13-16. On Administration motives for resistance, see William Broad, "Nuclear Designers From East and West Plan Bomb Disposal," New York Times, December 17, 1991, p. C1.

17. The latter approach through legislative action is somewhat more than a theoretical possibility, especially with the widespread perception in Congress and the public that the administration, for all its recent initiatives, is still responding inadequately to the ending of the Cold War. It is not widely realized that even under earlier conditions, Congress--pressed by a combination of expert briefings, influential lobbying and mass grassroots organizing--succeeded in enforcing against strong administration desires the American side of a highly important bilateral moratorium on testing of antisatellite weapons. And majorities in the House have repeatedly voted in favor of cutting off funds for U.S. nuclear testing in the context of Soviet moratoriums like the current one, which Russia has confirmed.